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EXAMINER	
CHISDES, SARAH J	
ART UNIT	**PAPER NUMBER**
2877	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

4K

Office Action Summary	Application No.	Applicant(s)
	10/681,039	SHAPIRO, FREDERICK W.
	Examiner	**Art Unit**
	Sarah J. Chisdes	2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 March 2004*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-3,5-19 and 21-31* is/are rejected.
7)☒ Claim(s) *4 and 20* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *08 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the optical probe(s) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The drawings are objected to because step 48 of Figure 4 appears to be out of place. It is not clear to the examiner how the probes are to be used as part of the method once the data has been collected and analyzed, a response sent to the operator, and the instrument reset. The ordering of the steps in Figure 5 is also unclear to the examiner. It is not clear why one would use a form to accurately position the subject (54) or place an adaptor on the subject to keep out ambient light (56) after data has been collected (52), if data is not collected again. It is also unclear why one would filter out erroneous spectral features (57) after the collected data has been compared to known data, if the data is not compared again.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Automated Raman Scanner for Documents and Materials.

The disclosure is objected to because of the following informalities: In paragraph 4 line 2, the document describes an "apparatus for scanning objects and individuals". Scanning an individual implies some sort of bio-identification. The device described in the present application scans identification documents in order to identify an individual, not an individual. The examiner suggests that the term "individuals" be replaced by the term "documents".

Paragraph 55, in the description of Figure 2 mentions a laptop computer (7), but the computer is not shown in the figure.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5-7, 10, 11, 13, 16, 17, 21-24, 27, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradbury (US 6,744,500) in view of Chaney (US 5,818,047).

As to claim 1, in column 3 lines 45-53, Bradbury describes a Raman scanner with a coherent light source (laser of the present application), optical assemblies for transmitting light (light path of the present application) and receiving light (detector), and a computer (processor of the present application) to analyze the spectra. Bradbury also discloses a library of Raman spectrographic fingerprints (database in the present application) in column 4 lines13-14, which are then compared to collected spectra by the computer (column 4 lines 22-25). Bradbury does not disclose a charge coupled device as the detector. Chaney, in column 7 lines 10-11, discloses a raman scanner for paper samples and uses a charge coupled device as the detector. It would have been obvious to one of ordinary skill in the art at the time of invention to use a charge coupled device (two-dimensional detector) as the detector to facilitate collection of two-dimensional data (response as a function of wavelength) produced by spectroscopically dispersed raman scattered light.

Claim 5 depends on claim 1, previously rejected as being unpatentable over Bradbury in view of Chaney, and adds the limitation of one or more optical probes for use with subjects that do not conform to the scanning surface. Chaney, in column 6 lines 39-40, discloses the use of an optical probe with a raman scanner. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a probe to scan objects that do not conform to the scanning surface in order to increase the versatility of instrument to analyze additional items of interest.

Claim 6 depends on claim 1, previously rejected as unpatentable over Bradbury in view of Chaney, and adds the limitation of computer readable media containing instructions to automate the scanning and data correlation process. In column 9 lines 31-32, Bradbury specifies a computer program can be used to automate the process of interest. The process of interest is disclosed in column 4 lines 22-34, and consists of scanning the subject, identifying components, and reporting the results. Claim 11 speaks to automating the scanning and correlation process and is also met by these sections of Bradbury, as combined with Chaney to reject claim 1.

Claim 7 depends on claim 1 and specifies software to provide material identification. As expressed above in regard to claim 6, the identification of a material is done by Bradbury in column 4 lines 28-30.

Claim 10 is dependent on claim 1, previously rejected as being unpatentable over Bradbury in view of Chaney. Claim 10 adds the limitation of moveable optics to analyze more than one point on the subject without moving the subject. In column 6 lines 15-19, Chaney teaches a reflective block that continuously rotates (moveable optic) to cause the laser spot to scan transversely across the subject. Scanning transversely across the subject is analyzing more than one point along the subject without moving the subject. It would have been obvious to one of ordinary skill in the art at the time of the invention to include moveable optics to scan more than one point on the subject without moving it in order to simplify the handling of the subject.

As to claim 13, which is dependent on claim 1, Bradbury in combination with Chaney as established above, discloses all the limitations of the claim, including a scanning surface (column 3 line 56), but does not disclose the use of a probe on the same instrument as the one with a scanning surface. In column 6 lines 39-40, Chaney teaches the use of an optical probe for raman analysis, and in lines 61-61 of the same column, provides for a stage as a scanning surface. It would have been obvious to one of ordinary skill in the art at the time of invention to provide an instrument with both a scanning surface and a probe to maximize the types of objects that can be analyzed.

Claim 16 depends on claim 1, previously rejected over Bradbury in view of Chaney, and adds the limitation of software to filter out erroneous spectral features from a sample signature. In column 5 lines 9-27, Chaney discloses a controller that by using appropriate software removes spectral features related to luminescence, fluorescence, or dirt or other contaminants on the subject that are not due to the raman scattering of light. It would have been obvious to one of ordinary skill in the art at the time of invention to provide a means to remove non-raman scattering related features from the spectrum to facilitate comparison to spectra in the database which would not likely contain those exact non-raman features.

Claims 17, 21, 22, 23, 24, 27, and 31 speak to the method of using the device specified in claims 1, 10, 5, 6, 7, 11, and 16, respectively. The method follows from the description of the device and therefore is not patentably distinct. Hence claims 17, 21, 22, 23, 24, 27, and 31 are rejected on the same basis as claims 1, 10, 5, 6, 7, 11, and 16.

Claim 2, which is dependent on claim 1, is rejected as being unpatentable over Bradbury in view of Chaney in further view of Bratchley (WO 91/11703). Bradbury in combination with Chaney as above, discloses all the limitations of the claim except the specific output of the processor as a "positive/negative" or "best match" response. Bratchley, working on document verification, on page 12 lines 32-33, provides an indicator to indicate if the document to be verified is "genuine", "false", or "marginal". Genuine, false, and marginal are taken to be the same as positive, negative, and best match. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an identification system with a three choice response, because a material or document either matches something in the database, does not match something in the database, or is indeterminate.

Claims 3, 14 and 19 are rejected as being unpatentable over Bradbury in view of Chaney, as above, in further view of Onthank (US 5,563,685).

As to claim 3, which depends on claim 1, Bradbury, in combination with Chaney, discloses all the limitations of the claim except an optical sensor coupled to the processor to detect the presence or absence of a subject. In column 4 lines 50-53 Onthank discloses a photo-sensing device capable of detecting the presence of objects, such as a sheet of paper, on a platen (scanning surface) which is connected to a control means (i.e. coupled to a processor). It would have been obvious to one if ordinary skill in the art at the time of the invention to add a sensor to indicate the presence or absence of a subject in order to further automate the scanning process and prevent scanning without a subject in place.

As to claim 14, which is dependent on claim 1, Bradbury, in combination with Chaney as discussed above, discloses all the limitations of the claim except one or more forms for accurate positioning of the subject on the scanner surface. Onthank in column 4 lines 41-44, provides one or more "stops" protruding above the surface of the platen (scanning surface) to assist in the manual positioning of a document. The "stop" provided by Onthank functions in the same manner as the "forms" provided in the present application. It would have been obvious to one of ordinary skill in the art at the time of invention to provide a means to assist in manual positioning of the document in order to improve data collection efficiency and accuracy.

Regarding claim 19, which is dependent on claim 17 rejected above, Bradbury, in combination with Chaney as discussed above, discloses all the limitations of the claim except detecting the presence of a subject and automatically initiating scanning of the subject upon detecting the presence of the subject. Onthank, in column 5 lines 1-4, discloses a sensor that activates a control means when a subject is detected. In column 6 lines 39-43, Onthank further discloses that the control means can provide for automatic scanning of the subject after it has been detected by the sensor. It would have been obvious to one of ordinary skill in the art at the time of invention to use the sensing of an object to initiate scanning of the object in order to increase throughput by decreasing the time required for a cycle of placing the object, starting the scan, removing the object, placing a new object, scanning the new object and removing the new object.

Claims 8 and 9 are rejected as being unpatentable over Bradbury in view of Chaney, in further view of Nottke (US 6,275,285).

Bradbury in combination with Chaney, discloses all the limitations of claim 8 except software to provide document authenticity verification. In column 3 lines 57-65, Nottke discloses a raman analysis system for verification and authentication of the materials used in documents and financial instruments. It would have been obvious to one of ordinary skill in the art at the time of the invention to include software for the analysis of materials used in documents in order to increase the versatility of the instrument to analyze other aspects of paper documents.

As to claim 9, Bradbury in combination with Chaney, discloses all the limitations of the claim except software to trace a material to its origin. In column 9 lines 44-46, Nottke further discloses that the raman analysis system can trace the origin of a document by chemically matching products to their apparent source. It would have been obvious to one of ordinary skill in the art at the time of the invention to include software to trace a material to its origin in order to improve the versatility of the instrument and provide more information about the document.

Claim 12 is rejected as being unpatentable over Bradbury in view of Chaney, in further view of Jung (US 6,249,339). Bradbury in combination with Chaney discloses all the limitations of the claim except a communication device to transmit results. In column 35 lines 4-5 and elsewhere, Jung describes components for wireless data transmission, suggesting that the type of data used in the present application could be transmitted over a wireless or other network. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a communication device for transmitting results in order to store data elsewhere as a back-up, or transmit data to another location for further analysis.

Claim 15 is rejected as unpatentable over Bradbury in view of Chaney, in further view of Rusnack (US 6,122,481). Bradbury in combination with Chaney discloses all the limitations of the claim except an adaptor to conform to the surface profile of the object and keep out ambient light. Rusnack, in column 4 line 17-18, discloses a cover made of a flexible material, the edges of which will seal to the scanning surface (column 3 lines 36-39) to keep all the light in. If the cover keeps in all the light from the illumination source, it also keeps out all the ambient light, thereby meeting the limitation of the claim. It would have been obvious to one of ordinary skill in the art at the time of invention to include a cover to keep out ambient light in order to improve the quality of the data by reducing the background light contamination.

Claims 18, 25, 26, 28, 29, and 30 speak to the method of using the device specified in claims 2, 8, 9, 12, 14, and 15, respectively. The method follows from the description of the device and the claims are therefore not patentably distinct. Claims 18, 25, 26, 28, 29, and 30 are therefore rejected on the same basis as claims 2, 8, 9, 12, 14, and 15.

Allowable Subject Matter

Claims 4 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: Using the removal of the object to initiate a save and reset sequence on an instrument has not previously been disclosed or suggested in combination with the limitations of the claims as set forth in the present application.

Telephone/fax Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah J. Chisdes whose telephone number is 571-272-8540. The examiner can normally be reached on 9am -6:30pm Monday through Thursday, and 9am - 5:30pm on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sarah J. Chisdes, Ph.D.
Examiner
Art Unit 2877

April 29, 2005

Gregory J. Toatley, Jr.
Supervisory Patent Examiner
29Apr05